HUMANE SLAUGHTER

• Approved Slaughter Methods

and how they work

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What is the Humane Slaughter Law?

The Humane Slaughter Law, passed by the 85th Congress as Public Law 85–765, became effective August 27, 1958. The purpose of this law was to establish the use of humane methods in the slaughter of livestock. Under the law, the Secretary of Agriculture was required to designate, by March 1, 1959, those methods of slaughter which were considered humane, and packers who wish to sell products to the Federal Government had until July 1, 1960, to put those methods into effect.

What methods of slaughter have been declared humane?

The following methods of slaughter were designated as being humane: (1) Chemical, carbon dioxide; (2) Mechanical, captive bolt; (3) Mechanical, gunshot; (4) Electrical, stunning with electric current.

What animals may be anesthetized by use of carbon dioxide?

Sheep, calves, and swine may be handled by this method.

How must animals be handled when carbon dioxide is used?

Animals must be exposed to the carbon dioxide gas in such a way as to produce surgical anesthesia before they are shackled, hoisted, thrown, cast, or cut. This must be done in such a way that it will accomplish anesthesia quickly and calmly with the least possible excitement and discomfort to the animals.

Animals must be driven or conveyed to the chamber with a minimum of excitement, and electrical equipment must be used as little as possible with the lowest effective voltage.

When animals leave the carbon dioxide chamber they must be in a state of surgical anesthesia and must remain in this condition throughout shackling, sticking, and bleeding.

What type of chemical chamber must be used?

The chamber must be of a type that will provide effective exposure of the animal to the gas. The

"U" type and the "Straight Line" type chambers are most commonly used.

Both types are based upon the principle that carbon dioxide gas has a higher specific gravity than air. The chambers are open at both ends for entry and exit of animals and have a depressed central section. Carbon dioxide concentrations are maintained in the depressed central section of the chamber.

Animals are driven from holding pens through a pathway constructed of pipe or other smooth metal onto a continuous conveyor device which moves the animals into and through the chamber. This movement is controlled by one operator.

What special requirements apply when gas is used?

Pathways, compartments, gas chambers and all other equipment used must be designed to accommodate the species of animals being anesthetized. It must be free from pain-producing restraining devices, as well as sharp projections, exposed wheels or gears, and unnecessary holes, spaces, or openings.

Power-operated gates designed to control the flow of animals must be constructed so as not to cause injury, and all equipment must be kept in good repair.

What precautions must be taken to keep gas concentration and distribution at a uniform level?

This must be done through the use of reasonably accurate instruments which sample and analyze the carbon dioxide concentration within the chamber. The gas may be from controlled reduction of solid carbon dioxide or from a controlled liquid source.

Sampling of gas for analysis must be made from a representative place or places within the chamber on a continuing basis, and gas concentrations and exposure time must be graphically recorded during each day's operations. To eliminate possible overdosages or failure of equipment, an exhaust system must be provided.

On what animals may mechanical stunners be used?

This type of equipment may be used on sheep, swine, goats, calves, cattle, horses, and mules.

How must captive-bolt stunners be applied?

These stunners must be applied so as to produce immediate unconsciousness with a minimum of excitement and discomfort. Animals must remain unconscious throughout shackling, sticking, and bleeding.

What types of captive-bolt stunners may be used?

Either skull-penetrating or nonpenetrating instruments may be used. A combination instrument using both penetrating and nonpenetrating principles may also be used.

How does the penetrating-type captive-bolt stunner work?

The penetrating-type stunner is designed to deliver bolts of varying diameters and lengths through the skull and into the brain.

How does the nonpenetrating-type captive-bolt stunner work?

This type of stunner is also described as a mushroom- or concussion-type stunner. When fired, it delivers a bolt with a flattened circular head against the surface of the animal's head over the brain. Diameter of the striking surface may vary.

How are these instruments fired?

Firing may be accomplished by detonation of measured charges of gunpowder or accurately controlled compressed air.

How must the stunning area be designed?

The stunning area must be designed and constructed to limit the free movement of animals so that the operator can aim the stunning blow with a high degree of accuracy.

What precautions must be taken to prevent injury to animals?

All chutes, alleys, gates, and restraining mechanisms between holding pens and the stunning area—and within the pens and the stunning area—must be free from exposed bolt ends, loose boards, splintered or broken planking, and protruding sharp metal of any kind. No unnecessary holes or other openings are permitted.

Overhead drop gates must be covered on the bottom edge to prevent injury on contact with animals. Flooring in chutes leading to stunning areas must be of roughened or cleated cement.

On what animals may firearms be used?

Cattle, calves, sheep, swine, goats, horses, and mules.

How must animals be handled when firearms are used?

Animals must be driven to shooting areas with a minimum of excitement and discomfort, and must be shot in such a manner that they will be rendered immediately unconscious and remain so throughout shackling, sticking, and bleeding.

What type of firearm must be used?

Firearms must be of a caliber that will fire a projectile capable of producing immediate unconsciousness and should be equipped with safety devices. Hollow-pointed projectiles, or frangible iron-plastic composition projectiles, must be used with small-bore firearms.

On what animals may the electrical stunning method be used?

Swine, sheep, calves, cattle, and goats may be stunned by this method.

How must animals be handled when electrical stunning is used?

Animals must be exposed to the electric current in such a way that there is a minimum of excitement and discomfort and in such a way that when the current is applied it will produce surgical anesthesia through shackling, sticking, and bleeding. Animals must die from loss of blood and not from electric shock.

Pathways, compartments, current applicators, and all other equipment used must be designed to accommodate the species of animals being anesthetized. They must be free from pain-producing restraining devices. Injury of animals must be prevented by elimination of sharp projections, exposed wheels or gears, and unnecessary holes, spaces, or openings. Impellers or other devices designed to move or drive animals, or to confine them, must be constructed of flexible or padded material.

All electrical stunning and auxiliary control equipment must be kept in good repair, and all indicators, instruments, and measuring devices must be available for inspection during stunning operations and at other times.

How much electric current is to be used?

Sufficient current must be applied to each animal to insure immediate unconsciousness. Unconsciousness must last through bleeding.

How is the supply of electric current to be measured?

Suitable timing, voltage-control, and current-control devices must be used to make sure that each animal receives the necessary electrical charge.

Is ritualistic slaughter covered by the law?

Yes. When the law was written, ritual slaughter according to the requirements of religious faiths was declared humane and exempted from requirements of the act.

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